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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SH-19103-PCT	<div style="display: flex; justify-content: space-between;"> FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) </div>
International application No. PCT/KR2003/002121	<div style="display: flex; justify-content: space-between;"> <div>International filing date (day/month/year) 14 OCTOBER 2003 (14.10.2003)</div> <div>Priority date (day/month/year) 18 OCTOBER 2002 (18.10.2002)</div> </div>
International Patent Classification (IPC) or national classification and IPC IPC7 G11B 7/007	
Applicant SAMSUNG ELECTRONICS CO., LTD. et al	

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the report
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 31 MARCH 2004 (31.03.2004)	Date of completion of this report 18 JANUARY 2005 (18.01.2005)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer SONG, Jin Suk Telephone No. 82-42-481-5694 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/002121

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement) under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the drawings:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-33	YES
	Claims	none	NO
Inventive step (IS)	Claims	1-33	YES
	Claims	none	NO
Industrial applicability (IA)	Claims	1-33	YES
	Claims	none	NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents;

D1=KR 2002-57729 A (LG ELECTRONICS CO. LTD.) 12 JULY 2002

D2=JP. 12-268511 A (SANYO ELECTRIC CO. LTD.) 29 Sept. 2000

1. Novelty and an inventive step

Claims 1-33 meet the criteria set out in PCT Article 33(2)-33(3).

The subject matter of the present invention relates to a method and apparatus for managing disc defects using updatable defect management area (DMA), and disc thereof. A write once disc in claim 1 is a single record layer disc in which a lead-in area, a data area, and a lead-out area are sequentially disposed. The disc comprises a defect management area that is present at least once in the lead-in area and lead-out area wherein defect information and defect management information are repeatedly recorded in the DMA according to a recording operation.

A prior art D1 discloses a method for recording data of an optical recorder/reproducer. If a command is inputted, whether the command is for a write command or for a write/verify command is decided. If the command is for a write command, data is written during the length from a position designated in the write command. If the command is for a write/verify command, a position of a zone to write the data is discriminated. The data is written during the designated ECC block length in the discriminated zone. An optical pickup performs back-jump as much as the stored track number and waits until a write start position arrives.

A prior art D2 discloses a data recording method, device and method thereof. This invention makes a recordable moving picture clearly in real time even in a recording medium such as a magneto-optical disk relatively high in error rate.

(continued in a supplemental box)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of:

The present invention and cited ones belong to the same art concerning defects. Present and cited invention D1 are similar in avoiding defect area in reproducing a recording medium. But they differ in that the present invention use DMA for defect information and defect management information but in D1, an optical pick-up performs back jump as much as a stored track number and waits until a write start position is arrived. And if the write start position is arrived, data are read from the position.

Neither D1 nor D2 is clearly taught on the structure of the present recording medium and on the defect management area for the defect of the recording medium. Therefore novelty and an inventive step of the subject matter can be acknowledged. Claims 11, 21, 30, and 32 are considered to be novel and inventive as a similar reason in a claim 1. Other dependent claims are considered to be novel and inventive as independent claims 1, 11, 21, 30, and 32 are (considered to be novel and inventive.).

2. Industrial applicability

Claims 1-33 meet the criteria set out in PCT Article 33(4).



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2003/002121

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 2002-0057729A	12 Jul. 2002	None	
JP 2000-268511 A	29 Sep. 2000	None	
KR 1999-0075796 A	15 Oct. 1999	None	
JP 2000-173056 A	23 Jun. 2000	None	
US 5,533,031 A	02 Jul. 1996	JP1996-045187 A KR1996-0002305 A	16 Feb. 1996 26 Jan. 1996
US 6,198,709 A	06 Mar. 2001	W09908273 A1 KR2000-0068750 A CN1236469 T	18 Feb. 1999 25 Nov. 2000 24 Nov. 1999

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FIG. 1

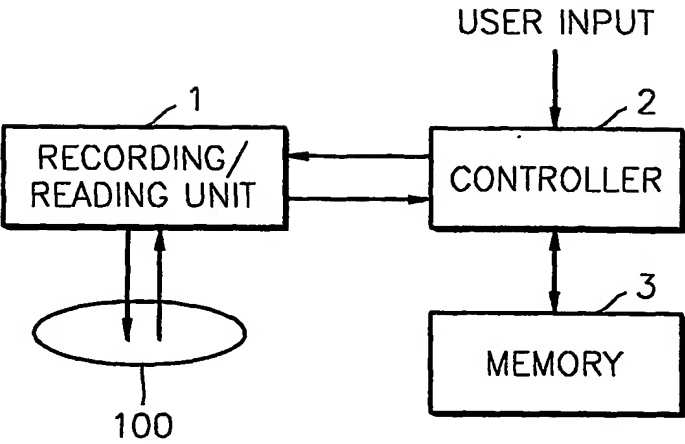


FIG. 2A

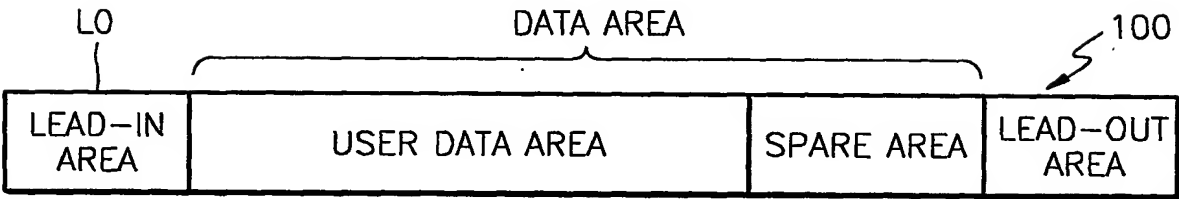
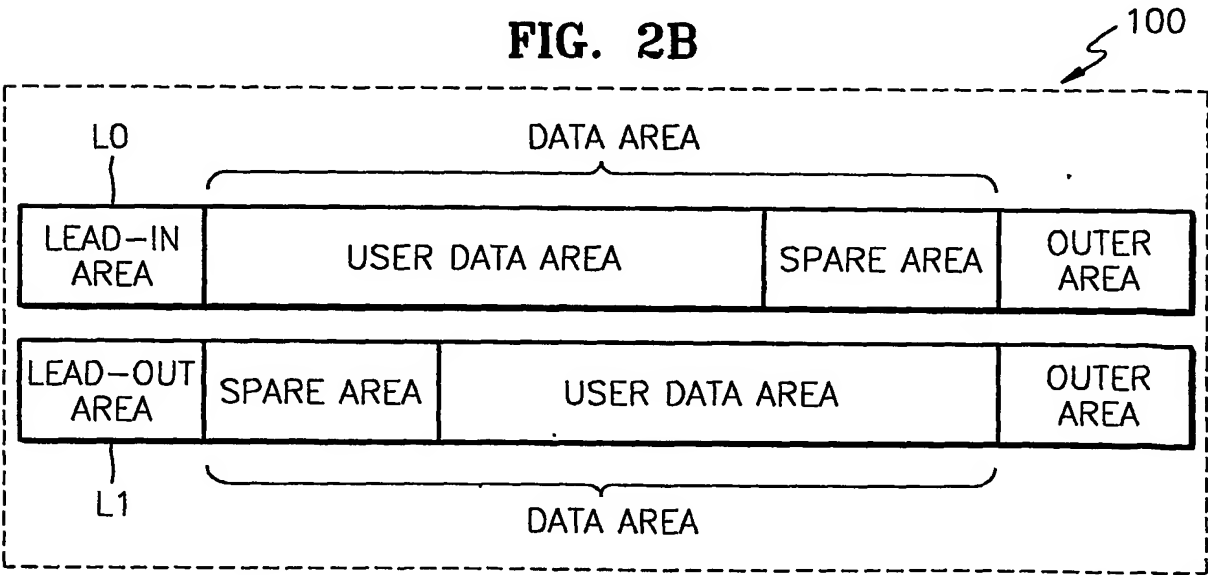


FIG. 2B



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FIG. 3A

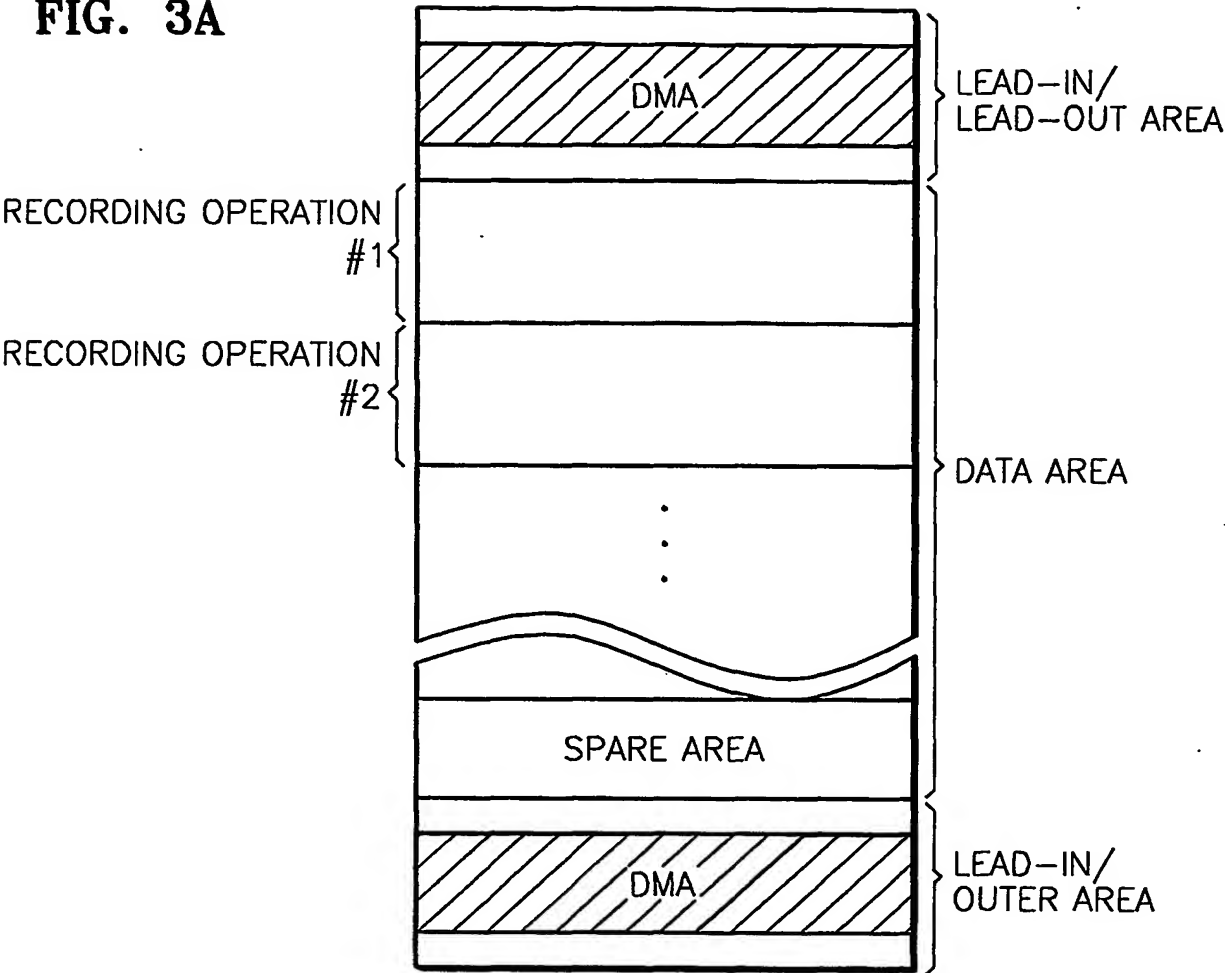


FIG. 3B

DMA 2
Buffer 3
Test
Buffer 2
DMA 1
Drive and Disc information
Buffer 1

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FIG. 4A

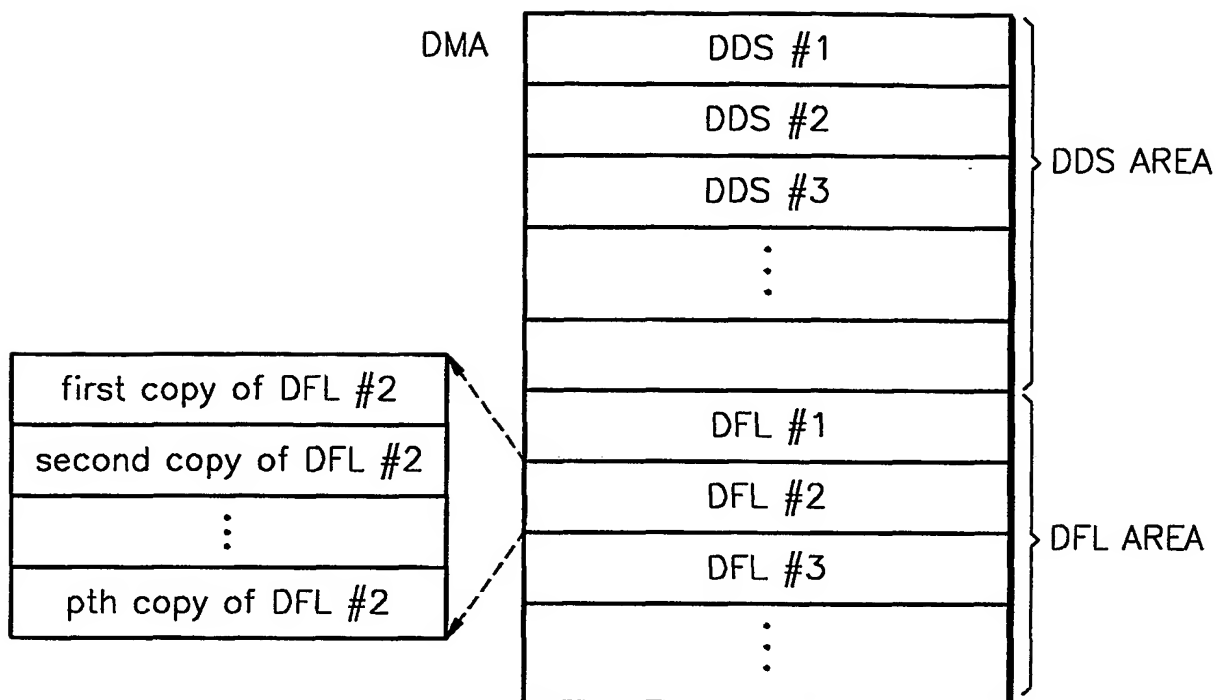
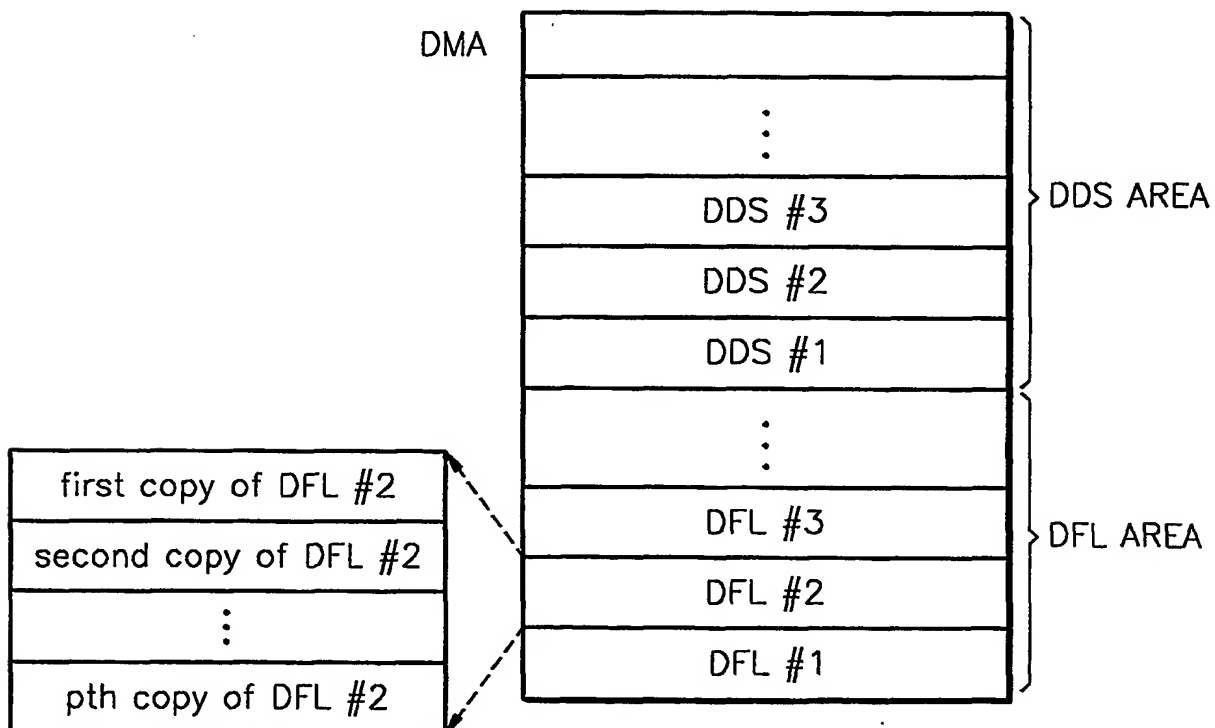
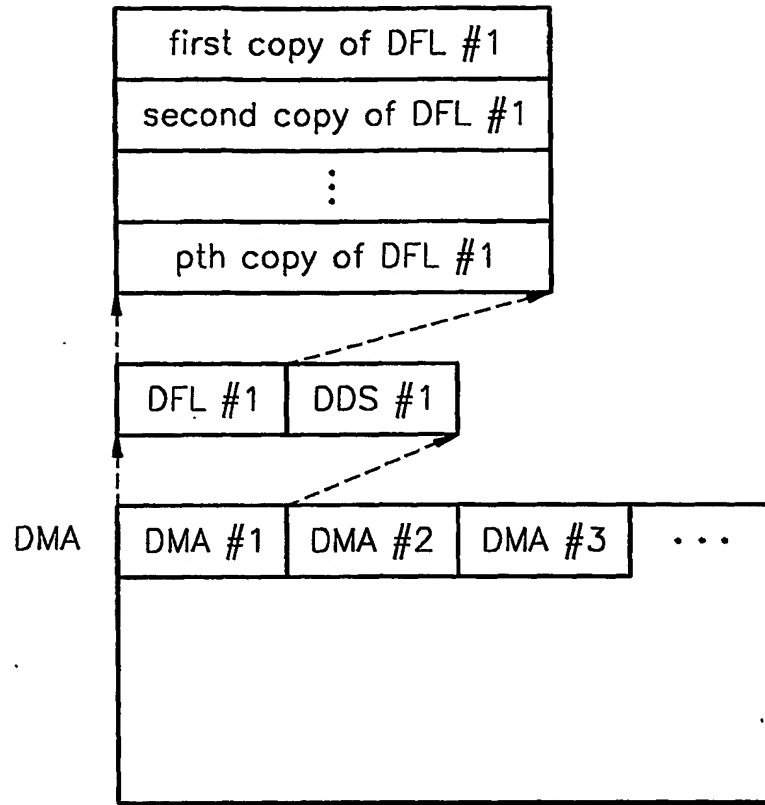


FIG. 4B

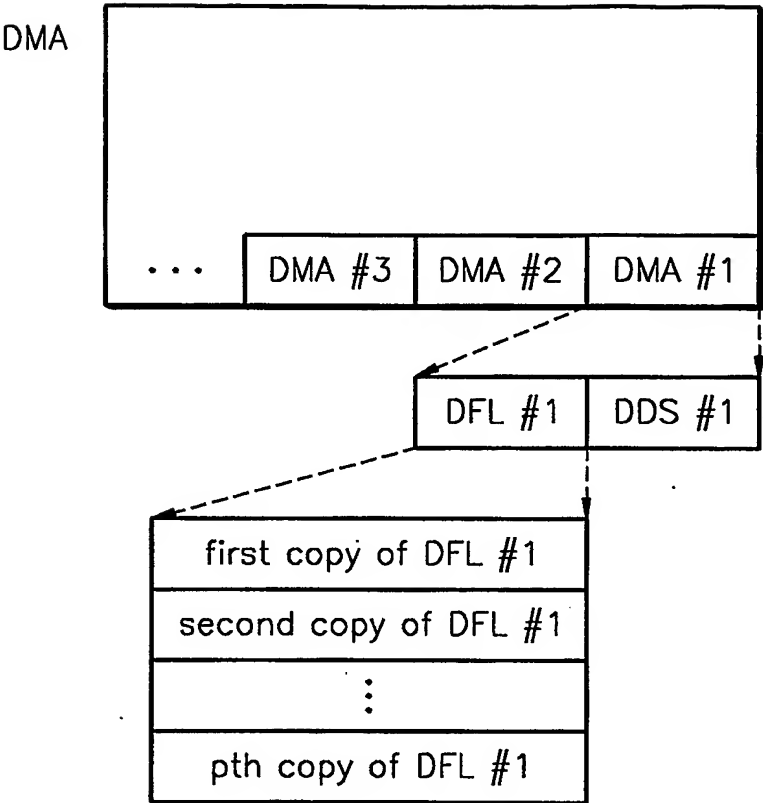


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FIG. 4C

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FIG. 4D



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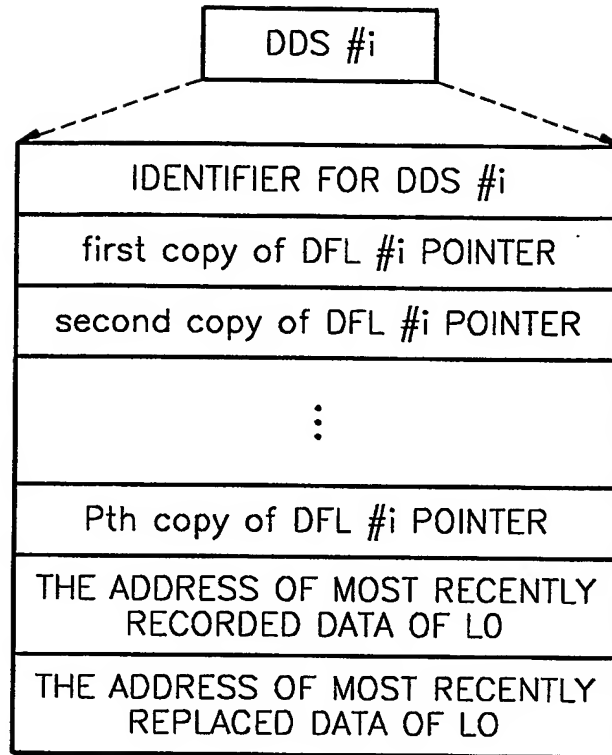
FIG. 5A

FIG. 5B

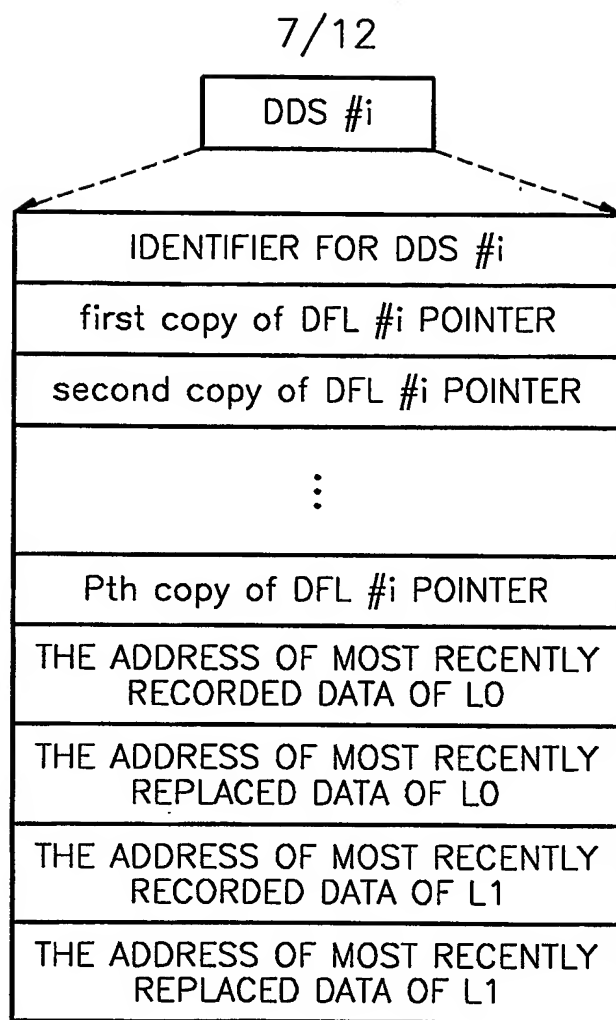


FIG. 6

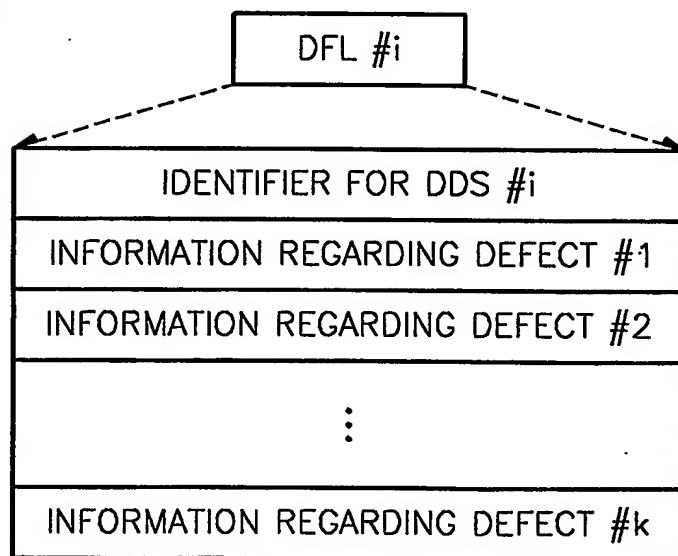
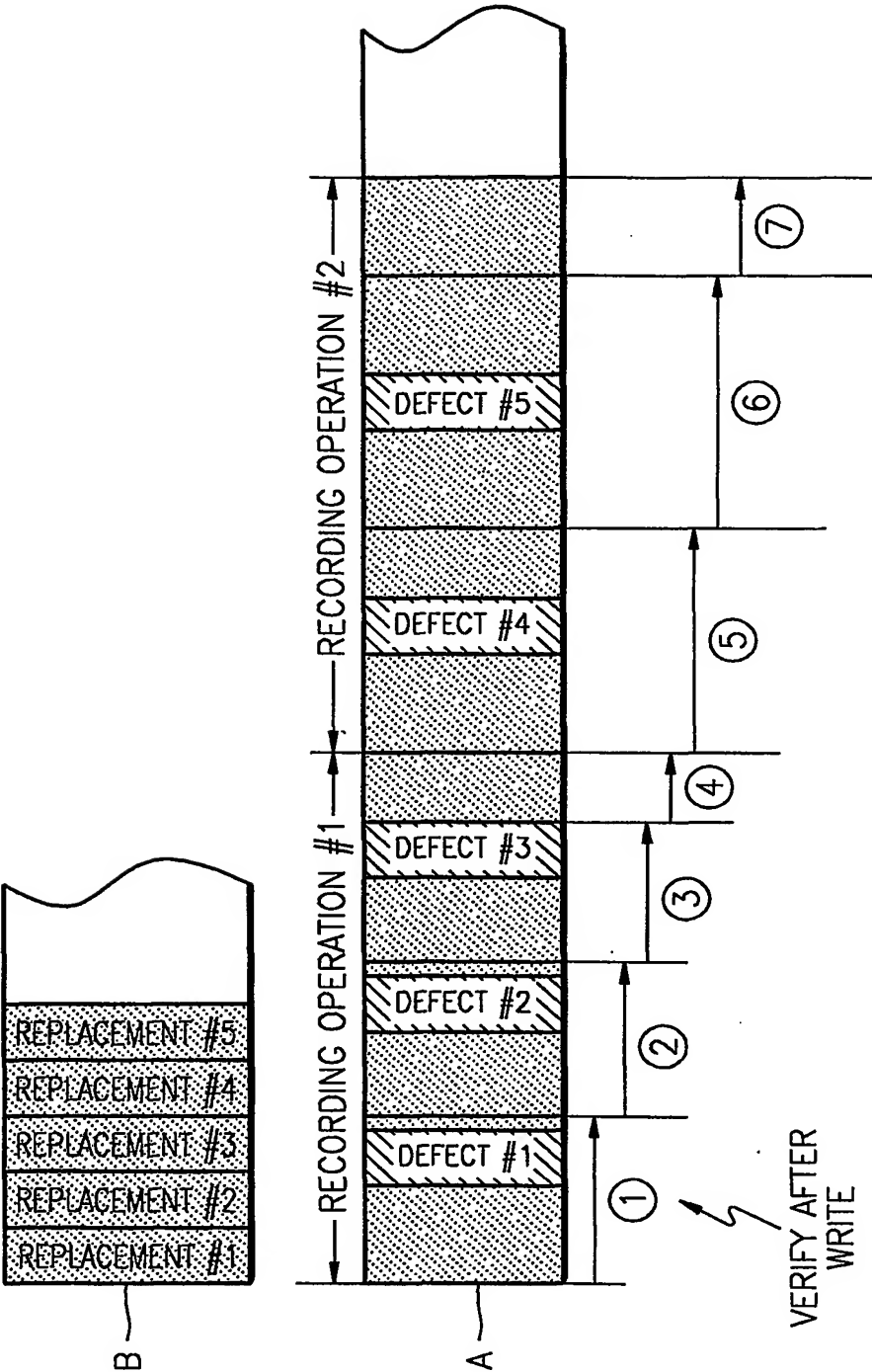
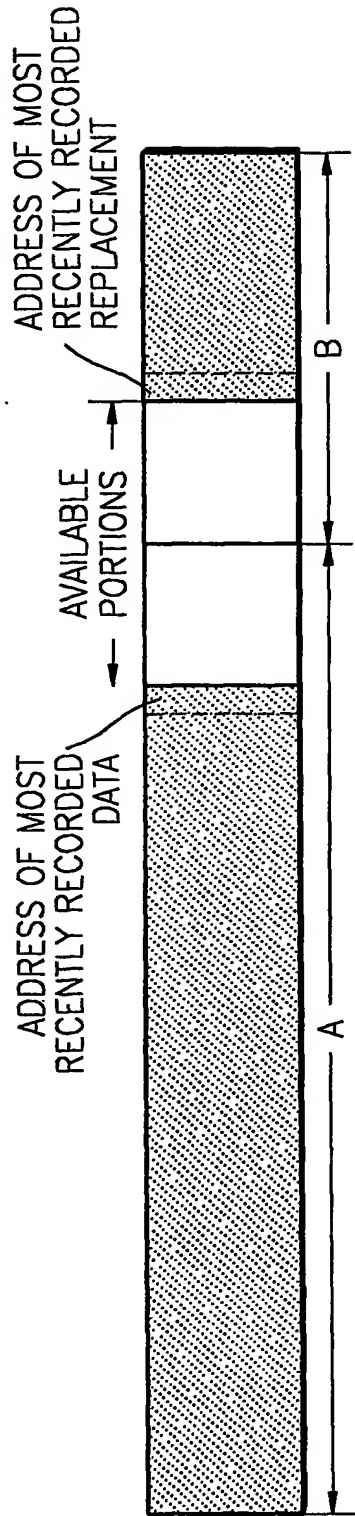


FIG. 7



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FIG. 8



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FIG. 9A

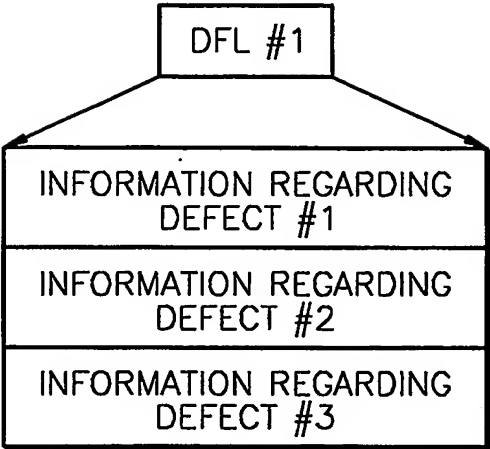


FIG. 9B

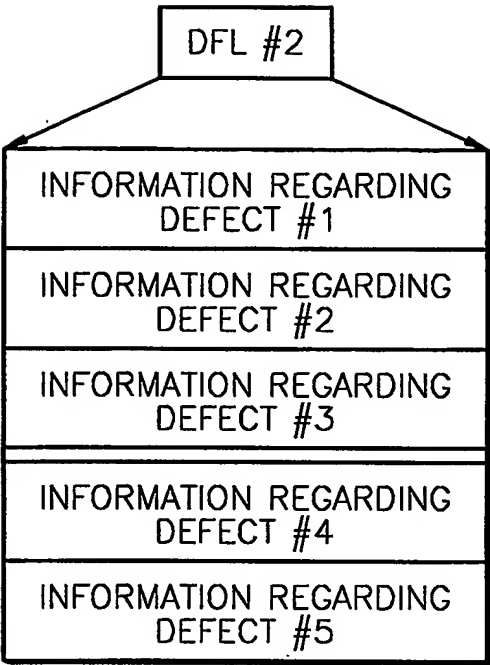
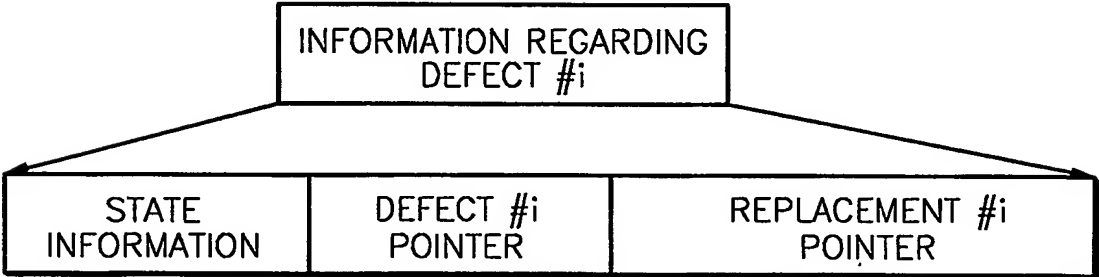
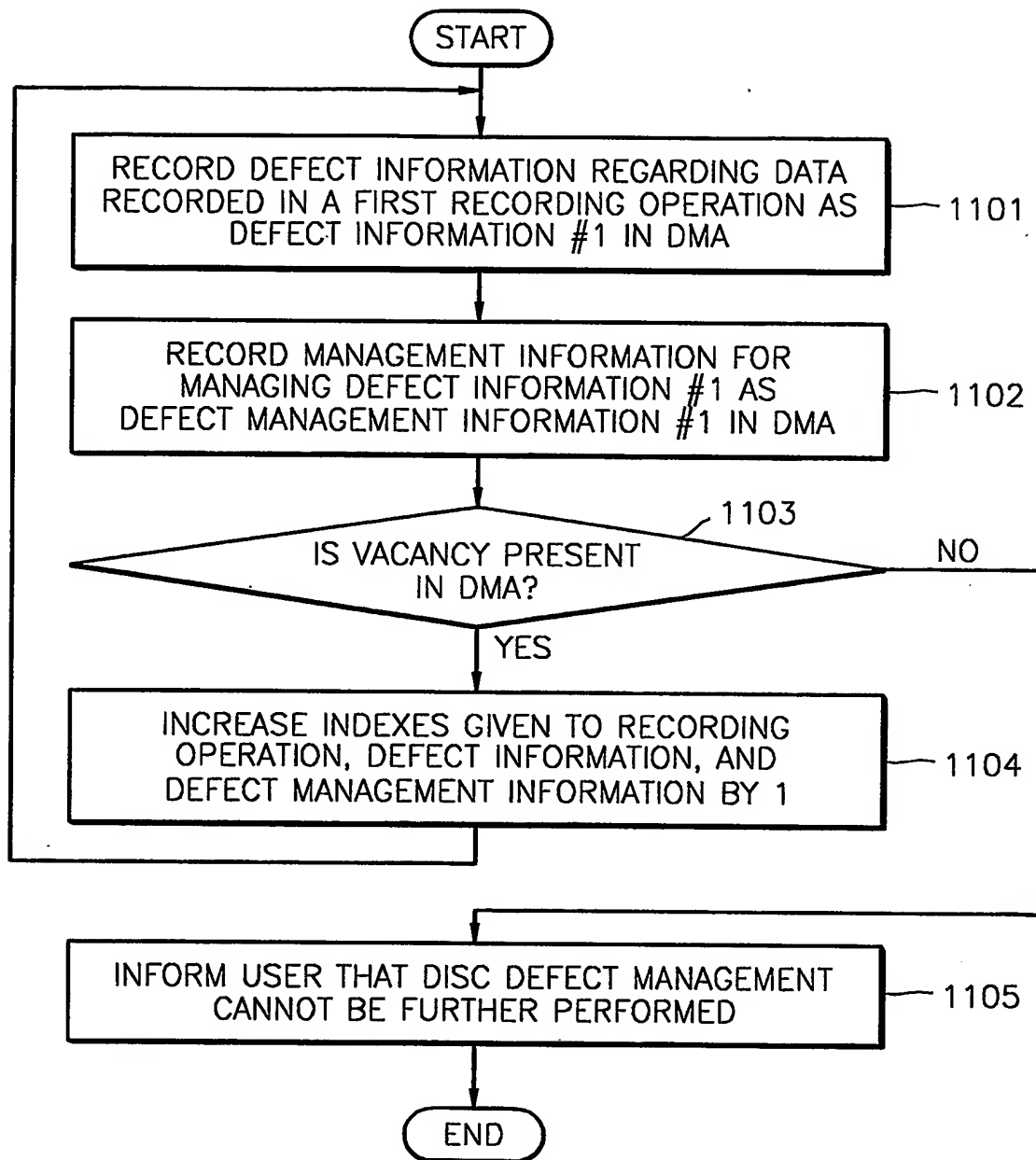


FIG. 10



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FIG. 11



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FIG. 12

